

Good Production Practice 1 Introduction

Assuring Quality: A program for youth livestock producers Developing Herd Health Plan

General QA Concepts/Developing a Herd Health Plan Activity 1: **Creating a HACCP Plan**

Resources Needed:

Worksheets
Pencils
Calculators

1. Divide youth into groups of 2 -3 and have each group complete the worksheet.
2. Discuss the following questions:
 - a. What are some other types of situations that the HACCP concept could be applied to?
 - *Many possibilities – kitchen food safety, driving a car to town safely, etc.*
 - *HACCP is most commonly associated with food safety problems, but it can be used for many situations*
 - *HACCP is more a way of thinking through any given problem – defining the outcome you want and then figuring out how to get there, given the potential problems along the way.*
 - b. In regard to quality assurance programs, what are the three types of hazards that we are trying to prevent in animal food products?
 - *Chemical, physical and microbial*
 - c. Which types can we do the most to control, as livestock producers? What are some of the hazards we can help prevent?
 - *Chemical and physical*
 - *Drug residues, injection site lesions, bruises, broken needles*

Creating Your Own HACCP Plan – Student worksheet

Scenario: You've weighed in three pigs for the Production Pig class at State Fair, and you want to make sure that they are in the 250 – 260 lb range by State Fair.

Here is the start of your HACCP Plan. Fill in the blanks where more information is needed.

- 1. Identify hazards:** What you don't want to happen is that your pigs are not as heavy as you'd like them to be for State Fair. You have 119 days from weigh-in to Fair. Your pigs each weighed 40 pounds. So, the "hazard" is that your pigs do not have an average daily gain high enough to get them to at least 250 lbs. What is that Average Daily Gain? (Hint: Calculate how many pounds the pigs must gain and divide by the number of days until State Fair.)
- 2. Find Control Points:** It is critical that to have your pigs perform as you'd like they gain at least _____lbs per day. What are some of the hazards that might prevent your pig from gaining?
Example: Hot, humid weather
- 3. Establish critical limits for each control point.**
For the example above – what could you do to counteract the effects of hot, humid weather? -- provide misters, shade and fans on hot days.
- 4. Monitor**
How can you monitor whether your actions are helping maintain your pigs rate of gain?
- 5. Take Corrective Action when necessary**
If your pig's rate of gain isn't what it needs to be, what kind of corrective actions can you take?
- 6. Records:** What kind of records should you be keeping on your pigs?
- 7. Verify:** Verification for this will be if your pigs make the weight you want them to by State Fair time, you can verify that the measures you took helped reach that weight.

Creating Your Own HACCP Plan – Answer Key

The following key does not have all possibilities, but should provide a start for discussion.

1. **Identify hazards:** What you don't want to happen is that your pigs are not as heavy as you'd like them to be for State Fair. You have 119 days from weigh-in to Fair. Your pigs each weighed 40 pounds. So, the "hazard" is that your pigs do not have an average daily gain high enough to get them to at least 250 lbs. What is that Average Daily Gain?
 - $250 - 40 = 210$ lbs to gain, divided by 119 days = 1.76 lbs/day
 - $260 - 40 = 220$ lbs to gain, divided by 119 days = 1.85 lbs/ day
2. **Find Control Points:** It is critical that to have your pigs perform as you'd like they gain at least 1.76 lbs per day. What are some of the hazards that might prevent your pig from gaining?
 - Example: Hot, humid weather
 - Feed – wrong energy level, wrong protein level, not feeding enough
 - Genetics of pig
3. **Establish critical limits for each control point.**

For the example above – what could you do to counteract the effects of hot, humid weather? -- provide misters, shade and fans on hot days.

 - Feed: wrong energy level or wrong protein level – consult extension staff , reference books or nutritionist to determine needs of pigs and adjust ration
 - Feed: Not feeding enough – don't limit feed, provide as much as they will eat
 - Genetics: not much can be done for this year, know you need to use different genetics in future
4. **Monitor**

How can you monitor whether your actions are helping maintain your pigs rate of gain?

 - Weigh pigs regularly
5. **Take Corrective Action when necessary**

If your pig's rate of gain isn't what it needs to be, what kind of corrective actions can you take?

 - Monitor more closely, look for signs of illness and consult vet
 - Re-evaluate feeding program
6. **Records:** What kind of records should you keep on your pigs?
 - Pounds of feed eaten daily
 - Record of any illnesses, dates when feed intake was low
 - Weight records
7. **Verify:** Verification for this will be if your pigs make the weight you want them to by State Fair time, you can verify that the measures you took helped reach that weight.

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General QA Concepts/Developing a Herd Health Plan Activity 2: Food Supply Continuum Puzzle

Resources Needed:

- Paper Plates (cheap ones) – one for every 7 youth
- Markers
- Scissors
- Worksheets (optional)

Before the Meeting:

1. On each paper plate write the following phrases in a clockwise design around the plate: Producer, Transportation, Harvesting, Processing, Retail & Grocery, Food Service, Consumers.
2. Cut apart the different phrases on each plate in a random, jagged fashion. If you cut each plate differently, this may require youth moving among various groups until they find the correct matching puzzle pieces. Or, you can cut each plate basically the same, so that a piece from any one plate will fit the next food supply continuum piece from any other plate. But within a plate, the cuts should not all just be straight lines, they should be so that only the pieces that were next to each other in the original plate, fit together as a puzzle.
3. Mix up the pieces and have each youth take one piece as they come into the meeting.

To Complete the Activity:

1. Have the youth assemble in groups of seven, with each youth representing one of the pieces of the food supply continuum puzzle.
2. Have them fit their puzzle pieces together to show how all segments of the food supply continuum work together.
3. Have youth complete the worksheet, or ask the worksheet questions aloud.

Questions

1. Which Segment/piece is responsible for safe handling of the meat or milk products in their homes? -- *Consumers*
2. Which segment/piece is responsible for raising the animals? -- *Producer*
3. Which segment carries the animals or milk from farm to market? -- *Transportation*
4. Which segment harvests the live animals and converts them to carcasses? – *Harvest, or packing plants*
5. Which segment makes products such as pork chops, steaks, sausages, hams, cheese and ice cream? -- *Processing*
6. Which segment must follow food safety and cleanliness guidelines when they prepare and serve food to other people? – *Food service*
7. Why is it important for all segments to work together? -- *A mistake at any point in the chain can affect the entire chain/circle and result in a bad experience for all.*

Food Supply Continuum – Student Worksheet

1. Which Segment/piece is responsible for safe handling of the meat or milk products in their homes?
2. Which segment/piece is responsible for raising the animals?
3. Which segment carries the animals or milk from farm to market?
4. Which segment harvests the live animals and converts them to carcasses?
5. Which segment makes products such as pork chops, steaks, sausages, hams, cheese and ice cream?
6. Which segment must follow food safety and cleanliness guidelines when they prepare and serve food to other people?
7. Why is it important for all segments to work together?



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General QA Concepts/Developing a Herd Health Plan Activity 3: Food Safety Worksheet

As a consumer you need to be sure that you properly store, handle and prepare food at home.

If the list of items below were found in food items, what type of hazard would they be? Label each hazard with the correct category by writing the first letter in the blank.

Biological
Physical
Chemical

_____ *Salmonella* Bacteria

_____ Violative Pesticide Residue

_____ Broken Needle

_____ Piece of Glass

_____ *E.Coli* Bacteria

_____ *Listeria* Bacteria

_____ Oil or Grease Residue

_____ Razor Blade

_____ Violative Drug Residue

_____ Piece of Plastic

Food Safety Key

Biological
Physical
Chemical

___ **B** ___ *Salmonella* Bacteria

___ **C** ___ Violative Pesticide Residue

___ **P** ___ Broken Needle

___ **P** ___ Piece of Glass

___ **B** ___ *E.Coli* Bacteria

___ **B** ___ *Listeria* Bacteria

___ **P** ___ Oil or Grease Residue

___ **P** ___ Razor Blade

___ **C** ___ Violative Drug Residue

P Piece of Plastic